FINAL GUIDELINES FOR THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED EXPANSION OF THE PORT OF MONTREAL

March 1990

FOREWORD

The Environmental Assessment Panel appointed to review the Port of Montreal Expansion Project held public meetings at Contrecoeur and Montreal on October 17, 18 and 19, 1989.

After examining the concerns raised by a great number of participants at these meetings, as well as the site selection studies presented by the Port of Montreal authorities, the Panel concluded that the Port of Montreal Corporation should prepare an environmental impact statement.

These guidelines do not deal with the Tétreaultville site, and the Panel has informed the Environment Ministers for Canada and Quebec of the reasons it does not intend to recommend that site for the expansion of the Port of Montreal.

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1.0 INTRODUCTION

The Environmental Assessment Panel appointed by the governments of Canada and Quebec has been established to review the Port of Montreal Expansion Project. The purpose of these guidelines prepared by the Panel is to assist the port authorities in their preparation of the environmental impact statement (EIS).

The object of the guidelines is to define the scope, the orientation, and the general format of the environmental impact statement. They also aim to identify the particular issues the proponent will have to deal with in evaluating the possible effects of the project.

The overall object of the impact statement is to ensure that the proponent, the responsible government agencies and the general public understand the consequences of the project on the environment. More specifically, the environmental impact statement must:

1) provide the need for the project;

2) identify the alternative sites and other options considered;

3) establish an environmental ranking of all potential options;

4) submit a thorough description of the preferred alternative including all development stages and provide an implementation timetable;

5) demonstrate the nature, extent and scope of the impacts of the preferred alternative;

6) highlight measures that allow reinforcement of positive impacts and mitigation of negative ones.

Given the socio-economic impacts a project of this complexity can entail, the guidelines specify that the impact statement, in addition to giving an account of the consequences of the project on the natural environment, must identify the effects it could have on the society and communities affected by the project as well as the constraints it would impose on them.

The proponent's EIS should answer all the issues addressed in the guidelines. If it doesn't, an explanation of the omissions will be required.

2.0 IMPACT STATEMENT SUMMARY

The object of the impact statement summary is to provide a concise description of the project and the consequences of its implementation on the environment. It should be of direct use to the general public and the information media. It will therefore be published separately while at the

same time remaining an integral part of the study.

The impact statement summary should include the project justification, alternative sites proposed, an inventory of the resources, the effects on the physical and social environment, mitigation measures, residual impacts (those that cannot be mitigated), and their significance.

3.0 PROJECT JUSTIFICATION

3.1 RATIONALE

The Panel's mandate is to review the need for the proposed project in order to assess the significance of both the positive and negative impacts of port expansion. The Panel has concluded that the need for the project as presented in the studies carried out to date by the port authorities was not deemed acceptable by the majority of the participants involved in the review. During the public meetings, the Panel observed that there was disagreement on the long-term container traffic estimates, on alternative sites for expansion on the Island of Montreal, as well as on the optimal use of certain sectors of the existing port.

The Panel believes that a consensus should be reached on the rationale for the project, although it recognizes the difficulty in achieving it, given the divergent and sometimes contradictory positions of some participants. For example, some held the view that the city has created the port while others maintained that the port had created the city. The possible increase or decrease in competitivity that a South Shore port expansion could cause was also put into question. The port authorities will have to indicate how they have taken these divergent opinions into account, in the most objective possible way.

Similarly, the Panel believes that the seriousness of the impacts caused by the project cannot be assessed behind closed doors. The ports environmental impact statement will thus be expected to show that consultations among the various interested parties did indeed take place.

The Panel believes that this re-examination should be carried out directly with the responsible provincial, regional and municipal authorities as well as with the socio-economic participants involved. This approach will assist in clarifying the need for the project for those who question it, and who wish to be consulted and reassured that the rationale for the port expansion was indeed examined in depth.

The traffic forecasts in the studies submitted will also have to be supported with more data and by type of activity (bulk cargo, containers, roll on-roll off, etc.).

The Panel is also asking the proponent to re-examine all site options considered in light of different forecast increases in port activity and

a weighing of broader, more acceptable environmental issues. The panel also notes that the preferred site at Contrecoeur is land that is designated agricultural under the protection law of agricultural lands.

3.2 ALTERNATIVE SITES

The need for the project should cover the entire port planning process, from the present, through the short-, medium- and long-term scenarios, and even beyond the "Horizon 2010" selected by the port administration. Any other approach would tend to limit the thoroughness of the review by eliminating from consideration various partial expansion alternatives which could mitigate environmental and socio-economic impacts in the short term.

These reflections on the eventual development of the Port of Montreal expansion over time lead the Panel to suggest that all planning horizons or deadlines, and the priorities related to them should be divided in accordance with the various scenarios.

It is also important that the idea of complimentarity among the ports on the Saint Lawrence be incorporated into the port development planning process.

3.2.1 On the Island of Montreal

The current situation

The proponent will have to demonstrate, sector by sector, that the land area on the Island, as well as the structures and equipment (wharves, warehouses, roads, cranes, etc.), are presently being used in the most efficient manner. This exercise will include recently abandonned sites which could be reallocated for port activities.

The future

The proponent will be expected to prepare a history of the development of the various uses for the port areas (bulk, general merchandise, containers). In addition, cargo volumes past and present, showing the respective amounts of container and non-containerized traffic should be provided.

The proponent should submit a description of the current areas to be "optimized" either by themselves or by other operators. The proponent will also have to define the area of expansion on the Island of Montreal with the collaboration of the concerned participants.

The proponent will also have to provide more details on areas adjacent to the existing wharves which could be, or will be acquired to expand the usable areas of the Port of Montreal to carry on port activities. These were in large part identified during the public meetings held the 17, 18, 19 Octobre, 1989.

The port will be required to provide specifics on the project's effect on employment which could result from the implementation or the rejection of various alternatives in the short and medium term.

3.2.2 Outside the Island of Montreal

The future

After explaining the necessity of a site outside the Island of Montreal, the proponent is expected to carry out an in-depth environmental and socio-economic study. This study should include a more detailed description of the proposed site, the proposed wharf alignment, the necessary dredging, clearing and backfilling operations, and the extent of topographical changes, to fill in gaps in the studies available thus far.

The Port will also be required to provide precise information on the employment effects of an expansion outside the Island of Montreal.

3.2.3. Site selection methodology and development of a matrix for sites outside the Island of Montreal

In general, the site selection methodology does not appear to be detailed enough to allow adequate adjudication among the various sites outside the Island. The use of different weighing methods could affect the results significantly. The methodology of the Dessau Study allows it to suggest Contrecoeur as a possible site. At the same time, its final selection is based on criteria that are indubitably subjective.
In order to proceed to an environmental ranking of the various sites, the proponent should develop a comprehensive matrix which should primarily -- but not exclusively -- include the following factors:

- legislation and regulations governing the protection of agricultural land and land use planning;
- protection of drinking water supplies;
- sensitivity of the acoustical and visual environment;
- compatibility of the increased road and rail traffic with existing structures and environments;
- sediment quality;
- sensitivity of the environment in terms of sediment transport and bank erosion;
- spawning grounds and other habitats important to aquatic fauna;

- marine safety;
- the relative importance of dredging and embankments in an aquatic environment;
- current and potential land use;
- compatibility with development plans;
- potential for the development of a port-industrial complex.

3.3 COMPARISON OF ALTERNATIVE SITES AND SITE SELECTION

The comparison of the different sites should be carried out rigorously, on the basis of the weighing of environmental components.

When the final selection has been made, the proponent will submit a master plan for Horizon 2010 as well as a projection for subsequent years, which describes all the constituent parts of the project in detail.

4.0 DESCRIPTION OF THE PREFERRED ALTERNATIVE

The proponent shall give a concise technical description of the preferred alternative, containing sufficient information to enable an environmental impact assessment of the construction and implementation of the project and the identification of the necessary mitigation measures (for example, the creation of new habitats). The proponent will be required to supply the documentation, graphics, maps and photographs illustrating the precise location of the project and its related installations.

4.1 THE SITES

The impact statement should contain a description of the following elements: —

1) port installations proper (wharf alignment, cargo handling areas and equipment, storage and service buildings, warehouses, etc.):

2) multi-purpose installations (light industry, warehouses, office buildings and other services);

3) road and rail infrastructure to be used for cargo transport into or out of the port sector;

4) industrial installations, if any (type of industry, products, operations, physical description of buildings and equipment).

The proponent should also include the information necessary to assess the site's long-term potential for port and industrial development.

Information on the road and rail transport infrastructure related to the project is to be supplied in terms of the medium and long-term planning approach described in sections 3.2.1. and 3.2.2.

Road and rail transport

The Panel should have the means to evaluate aspects of the project such as:

- compatibility of the existing road and rail systems with the needs of the Port of Montreal;

- the infrastructure needs over time and their costs.

The proponent should therefore provide more detailed data on road transport than the Dessau Study estimates.

The review of the sites on the Island of Montreal should include:

- the impact of heavy (truck) traffic on Rue Notre-Dame, access roads, Autoroute 25, etc.;

- the impact of increased rail traffic on the infrastructures and the environment.

The same factors should be taken into account for sites outside Montreal. Thus the review of the Contrecoeur site should include an assessment of:

- the need to rebuild and relocate Route 132 which crosses the site;

- the eventual requirement to upgrade the Chemin Lapierre-Autoroute 30 interchange and the service road leading to it in this sector;

- the issue of the railway line removal project at Boucherville-Varennes.

A market feasibility study should be carried out for each transportation mode to identify potential clients and alternate routes. A demonstration of the future competitiveness of the Port of Montreal in terms of its rail links should be done by showing the extent to which lower land costs could be used to offset the higher rail and road transport costs.

4.2 STUDY AREA

The proponent should define the study area so as to include all environmental components that could be affected by the project.

The section of the River between Montreal and the Sorel-Tracy sector has been relatively unaffected by development to date. It contains many islands with habitats suitable for the reproduction of a large number of animal species (birds, fish, reptiles, aquatic mammals, etc.). The River itself is a migration corridor and a feeding habitat for numerous fish species important to both the commercial and recreational fishing industry.

The proponent will be required to describe the state of the environment by focusing particular attention on the dynamics of the ecosystems and using all the pertinent data available or complete such data when necessary. The study area should be large enough to highlight both the direct and indirect effects of the project on the natural and human environments. At this level, the study area should include all of the sector affected by the dispersal of sediment caused by dredging as well as by an eventual spill of dangerous products.

The study area should also be large enough to enable a proper assessment of the socio-economic impacts of the project.

4.3 INTEGRATION OF ECOSYSTEMS AND HUMAN POPULATIONS

The object of this approach is to describe the whole of the ecosystem which would include the major physical characteristics, fauna and flora, and the way human populations integrate into these ecosystems by describing the current and projected, qualitative as well as quantitative utilization of the resources. The emphasis should be on significant environmental components -- that is, those that will be affected by the project.

As for the selection of a site and development options for the project, the Panel is of the opinion that the proponent should be guided by two important principles. First, backfilling operations in an aquatic environment should be limited to the absolute minimum. Second, dredging should be kept to a minimum -- during the construction period as well as during maintenance operations.

On the same topic: the description of aquatic fauna should be given using the existing database in function of the fauna's use of the portion of the Saint Lawrence to be impacted or affected by dredging operations, or by activities or potential accidents during the operational phase of the project.

4.4 CONTAMINATED SEDIMENTS

The potential of contaminated sediments in the Montreal region makes it necessary for the proponent to carry out a physical-chemical analysis of the sediments within the port itself and in the surrounding area to determine the nature and levels of toxicity in the sediment and to develop appropriate dredging and sediment disposal methodology.

5.0 ASSESSMENT OF THE ENVIRONMENTAL IMPACTS

The proponent must specify impacts stemming from the construction and operational phases, primarily those due to the establishment of a port-industrial complex, if it takes place.

Details on impacts caused by modifications to the various services and infrastructures should also be provided (aqueducts and sewers, transportation systems, etc.).

5.1 BIOPHYSICAL IMPACTS

The following road and rail system elements should therefore be reviewed:

- the impacts of the traffic generated as a result of port expansion on roads in the Montreal region, especially on highways, main roads, bridges and access roads;

- the impacts of the increase in road and rail traffic on the existing infrastructures and on the communities affected outside of the Island of Montreal;

- the impacts of new port infrastructure (for the expansion project). For every type of infrastructure, various aspects to be reviewed include:

  - o technical feasibility
  - o costs
  - o quality of service after implementation;

- environmental effects caused by these changes (noise, dust, quality of life).

The review of the Contrecoeur site should take into account the cumulative environmental impacts, in particular of proposed projects like Soligaz and the Iron Ore Co.(IOC), as well as the needs of Allbright and Wilson Co.

The proponent should spell out the precise relationship that can exist between this project and any other, particularly the Soligaz project at Varennes, and the IOC wharf expansion or sale at Contrecoeur. The proponent is also expected to observe the requirements of the Ministère de l'Environnement du Québec and the MRC LaJemmerais development plan in relation to these three companies (Soligaz, Allbright and Wilson, and the IOC expansion).

The proponent should also address -- but not necessarily limit the study to -- the following impacts.

1 - The extent of dredging during construction.

2 - The extent and frequency of maintenance dredging.

3 - Sediment contamination and management of dredged materials (how will they be disposed of?), including alternatives to dumping them back in open water.

4 - Effect of dredging on the hydrological equilibrium of the river:

the impacts caused by dredging, on the speed and distribution of the current at the site of future installations are among the variables that should be evaluated -- at different water levels and times of the year. These data will be useful in assessing the scope and extent of other impacts.

5 - The effects of river traffic and dredging on bank erosion, sediment transport and movement of ice flows.

6 - Impacts on spawning grounds and other important faunal habitats.

7 - Impacts of the wharves and their design on water flow, erosion, sedimentation and ice flow movement:

the wharf type and its alignment in relation to the river is

important because it determines the volume of riverbed dredging required;

the changes in flow rates caused by wharf development and their effects on the natural sedimentation rate should be reviewed and studied to make sure that aquatic plants both above and under water are maintained and any losses compensated.

5.2 SOCIO-ECONOMIC IMPACTS

A project such as the one proposed by the Port of Montreal Corporation can certainly be expected to stimulate the local and regional economy, and thus affect the quality of the human environment, particularly in terms of employment. At the same time, the local residents can expect a certain deterioration in the quality of their environment as well as certain economic activities would be affected.

The proponent will have to define the socio-economic impacts of his project (both on the island of Montreal and the preferred site).

The proponent will have to deal with the following impacts, though by no means exclusively:

1 - Deterioration in air quality (dust and vehicle exhaust).

2 - The impacts on current land use and its compatibility with the development plans.

3 - Noise and visual effects.

4 - Impact on roads during construction:

the impacts of the project during the construction phase should be reviewed. These refer to large truck and heavy equipment traffic, deterioration of highways, availability of materials (protective stone) and equipment (dredging).

5 - Drinking water quality:

as the port expansion project will inevitably entail dredging and excavation, the proponent should identify, for every site under review, the exact location of nearby drinking water intake pipes; also the effects of the work and future port operations that will disturb the sediment at these locations; the effects on water treatment; effects of potential spills; etc.

5.2.1 SAFETY

Road safety

Among the major impacts of the Port of Montreal expansion in the South Shore over the next two decades will be the increase in the number of heavy trucks on local and regional roads. On this topic, the proponent should respond to the questions below.

- How heavily does the proponent expect the highway system to be used (number of trucks per day, percentages and types of dangerous materials, etc.)?

- Which streets, highways and expressways will be affected by an increase in heavy traffic?

- Are there any roads that are considered dangerous and need to be rebuilt or upgraded? How soon?

Finally, what developments are planned for Route 132 and neighbouring streets and roads to facilitate truck access to the Port site (access roads, entrances, exits, intersections, traffic signals, widening, etc.), and approximately when?

Rail safety

Like the highways, the railroads will see their traffic volumes rise.

- How busy does the proponent expect the rail system to become (number of containers, wagons, convoys; percentages and types of dangerous materials)?

- What mechanisms have been put in place to reduce or minimize accident risk (secure level crossings, removal of tracks from heavily populated areas) or mitigate the consequences of an accident (emergency measures plan)?

It thus appears likely that accident risks related to the transport of goods between the various installations some distance removed from each other have increased. Are indirect spin-off effects in the form of rail and road infrastructures to be expected at the new site?

Marine safety

The Port expansion will entail a significant increase in the traffic and maritime manoeuvres in the waters near the new Port facilities.

The proponent is required to submit an assessment of accident risk and the emergency plans in case of accident.

The vulnerability of each site to oil or toxic spill should be assessed. Particular attention should be given to rare or endangered animal or plant species and their habitats. The proponent should therefore submit a detailed emergency plan and an outline of its application mechanisms in response to the different hydrological and biological characteristics at each site.

6.0 MITIGATION MEASURES

The proponent should provide detailed information on mitigation or improvement measures to be used at the site and indicate to what extent they can reduce or eliminate negative impacts, particularly:

- the effect of dredging and sediment contamination on the environment;

- compensation measures, so that losses of existing aquatic plants and fauna habitats are totally restored through the establishment of new equivalent habitats (for example, building small islands out of accumulated fill at suitable sites, etc.). Significant efforts should be dedicated to this attempt and to the creation -- if possible -- of new faunal habitats out of dredged materials; and

- the quality of the human environment. The proponent should provide detailed information on measures to compensate local residents for their environment quality losses (river access, vegetation, screens, anti-noise structures, parks, pathways, etc.).

The proponent should describe qualitatively and quantitatively the irreversible effects of its activities on the natural resources.

7.0 MONITORING AND FOLLOW-UP

The proponent will be asked to outline monitoring and training programs to be put in place to assure, during both the construction and operational phases, that:

- measures proposed in the environmental assessment review, plans and specifications will be followed;

- the terms of authorizations granted (orders, certificates) will be respected; and

- environmental standards, legislation and regulations will be obeyed.

The proponent should also outline the follow-up program under which measurements and observations will be taken over a set period of time, to determine the nature and extent of certain impacts of the project, in particular those this study highlights as high-risk.

If construction work on the project could impact on the water quality near a water intake pipe, the proponent shall take effective measures to supervise and protect that water intake.

In addition, an environmental follow-up report on the success in managing the new fauna habitats is required.

Finally, the proponent shall specify the time period over which the success rate of the mitigation or improvement measures is to be monitored.

8.0 BIBLIOGRAPHY

The proponent is expected to provide a detailed listing of all documents used during the preparation of the impact statement. Each entry is to be complete, so that all documentation can be verified.

9.0 APPENDICES

Significant documents (plans, specifications,maps, reports, etc.) should be included as appendices to the impact statement so that they are directly accessible.